

International Power Supply

IPS product benefits and references in the Telecom sector



Headquarter Sofia

Key product considerations

- Outdoor power systems:

- ✓ **All from 1 Manufacturer** => 100% integration of rectifiers, solar charge controllers, inverters, DC-DC converters, MCU, sensors, A/C etc.
- ✓ **Unique IPS software for manual and automatic battery capacity test** => increase battery life
- ✓ **Solar ready** => fast upgrade with solar system. MPPT solar charge controllers under the same MCU, monitoring and control
- ✓ **IPS OPEX controller** => unique IPS software for fuel save and diesel generator running hours reduction
- ✓ **Maintenance-free air conditioning unit (A/C)** => zero OPEX
- ✓ **Complete hybrid outdoor power system design** => cost savings, zero OPEX, space savings, integrated cooling system
- ✓ **Customized design** => maximum customer's requirement satisfaction
- ✓ **NATO AQAP quality standard** => robust and reliable design, long life in harsh conditions



*Hybrid Off-Grid Power System
EXERON*



*DC load 1.5 kW, PV 6 kWp, DG 18 kVA
Total OPEX savings ~86%*



*Outdoor cabinet COOLRACK, double walls,
A/C, 19" free space for clients equipment*

IPS competitive advantages and design benefits

Comparison between IPS and the most deployed competitor's setups

	COMPETITORS, MOSTLY USED	IPS	BENEFITS
A/C unit, mounting	Door mounted	Modular and roof mounted, easily detachable	<i>Ease of mounting and transportation</i>
A/C unit, airflow	Locally distributed	Equally distributed from top to the bottom	<i>Much more efficient cooling capacity</i>
A/C unit, maintenance	Requires regular maintenance	Maintenance-free	<i>No maintenance costs, overall OPEX costs reduction</i>
A/C unit, consumption	Acceptable energy consumption	Low energy consumption, intelligent control	<i>Lower energy costs, overall OPEX costs reduction</i>
Customized cabinet design	Standardized design, few options	Customized design, perfect fit for every component and setup	<i>Better air conditioning, cost optimization, OPEX costs reduction, service costs reduction, flexible installation locations</i>
Solar controllers, fuel save controller, inverters	Site upgrade with components from different producers	Site upgrade with unified and 100% integrated components	<i>Higher efficiency, longer life, better performance, longer battery life, better communication</i>
NATO AQAP design	Acceptable civil design requirements	Military design	<i>More robust, ability to work in harshest conditions – humidity, sand, dust, high temperature etc.</i>
Scalability in terms of solar charge controller power, inverters etc.	Limited scalability	Unlimited scalability for all system components	<i>No extra costs, perfect communication and integration between all system components. Unified communication and monitoring.</i>
Remote monitoring	Acceptable	Unlimited options for connections of external alarms to the system's MCU	<i>No additional costs, everything is monitored from the system's MCU.</i>

IPS outdoor system solutions

IPS develops, designs and manufactures the following basic types of outdoor systems



Air conditioning
Double walls



Forced ventilation
Double walls



Forced ventilation
Single walls

IPS outdoor system solutions

IPS basic types of outdoor systems for various applications



Air conditioning
Double walls



Forced ventilation
Double walls

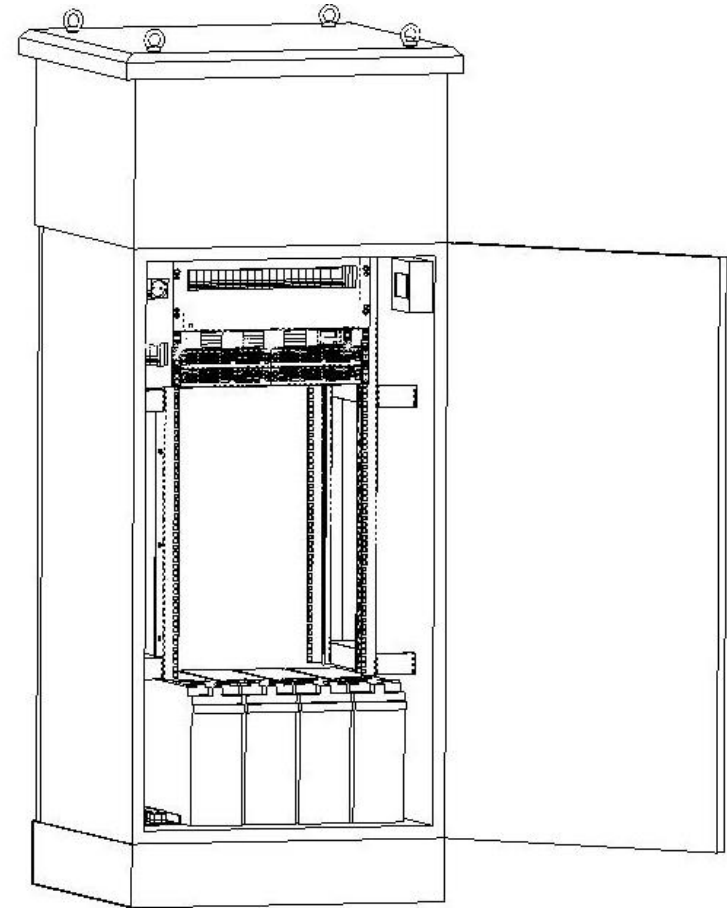


Forced ventilation
Single walls

COOLRACK – IPS complete outdoor power system

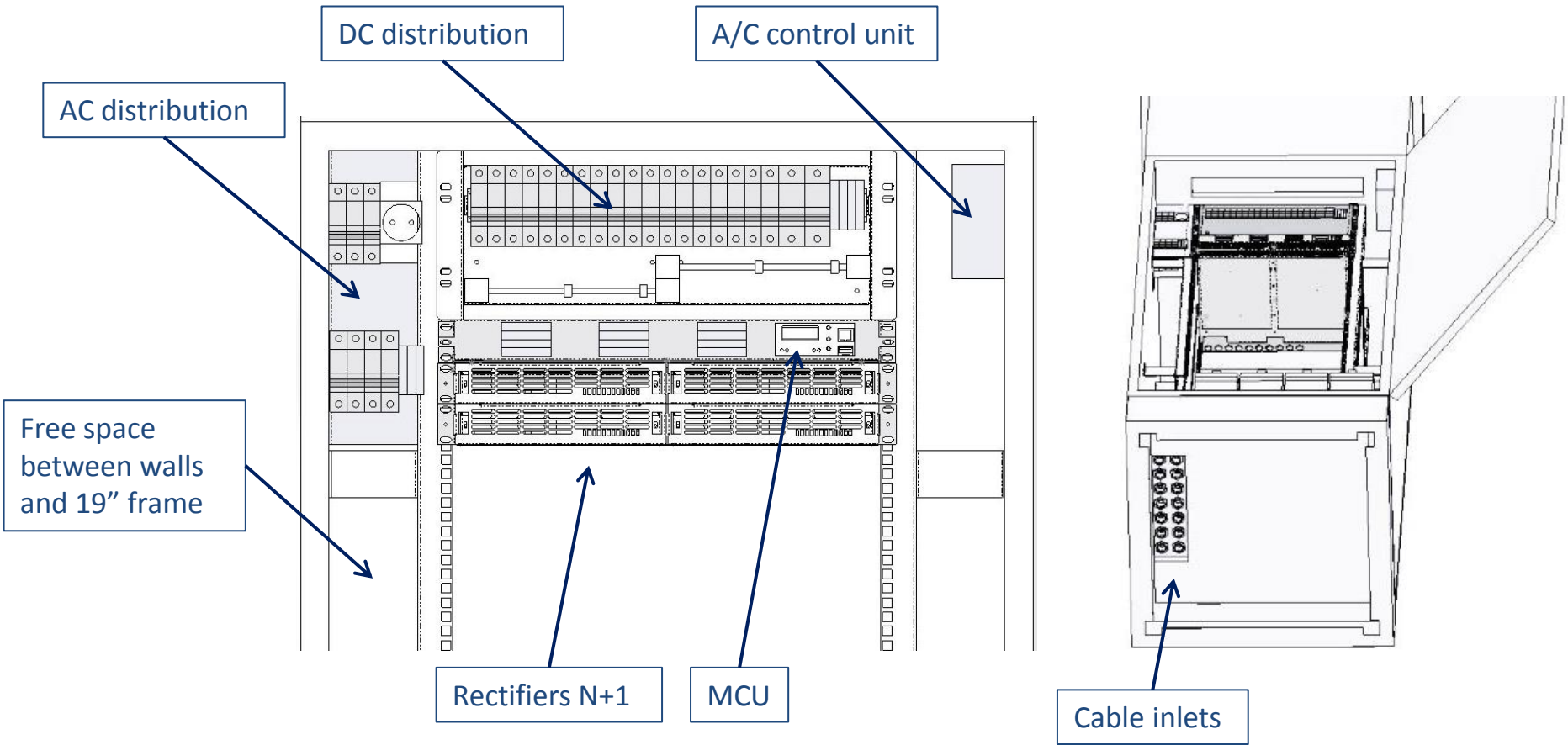
The best telecom outdoor power solution and equipment protection.

- IPS designed A/C intelligent unit
- Modular detachable A/C unit
- A/C redundancy option
- I/O PDU equipped in acc. to Client
- IPS rectifier system
- IPS inverter system (optional)
- IPS solar charge system
- IPS A/C intelligent control
- MCU for remote monitoring
- Unique *COOLFLOW* air technology
- Double walls
- Front and rear door
- Different alarms



COOLRACK – IPS complete outdoor power system

The IPS custom design for 3G and LTE providers.



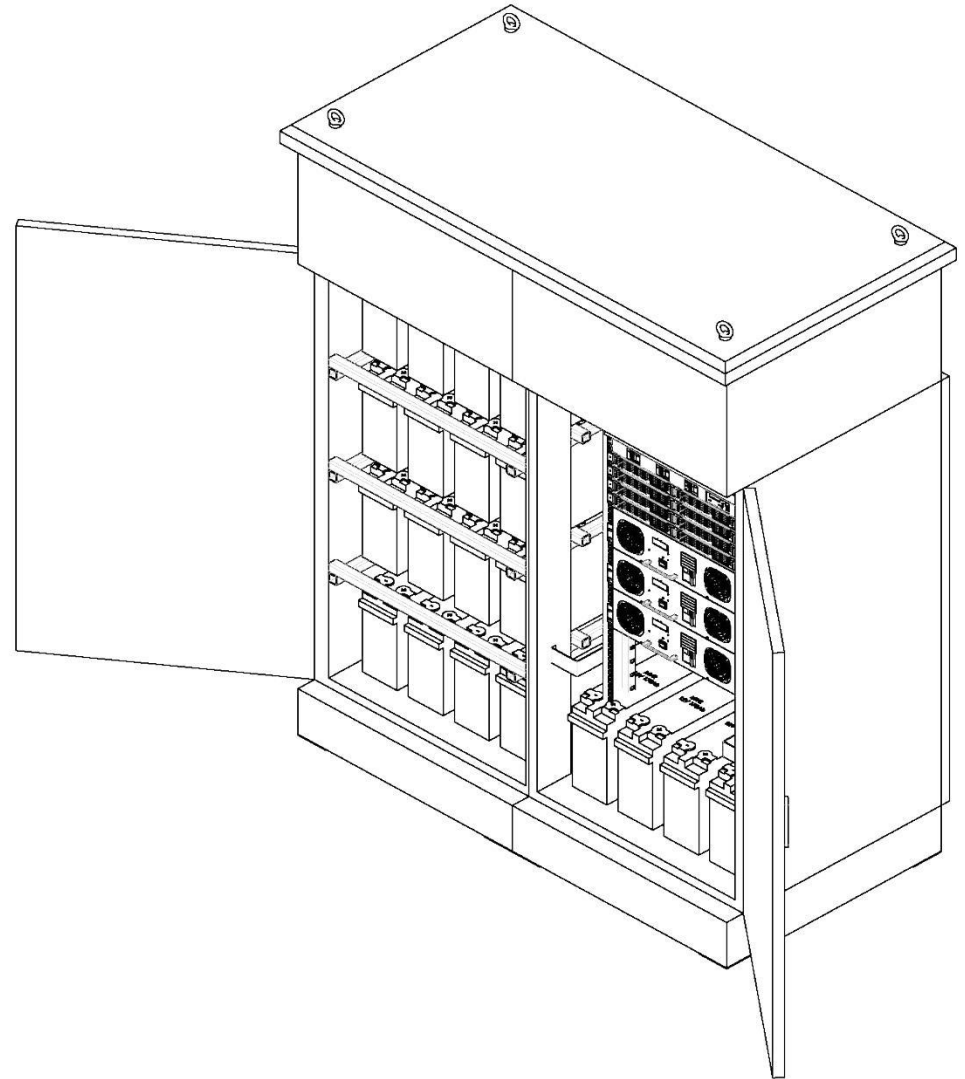
COOLRACK – IPS complete outdoor power system

- 2 x A/C redundant IPS design
- Double IPS outdoor design



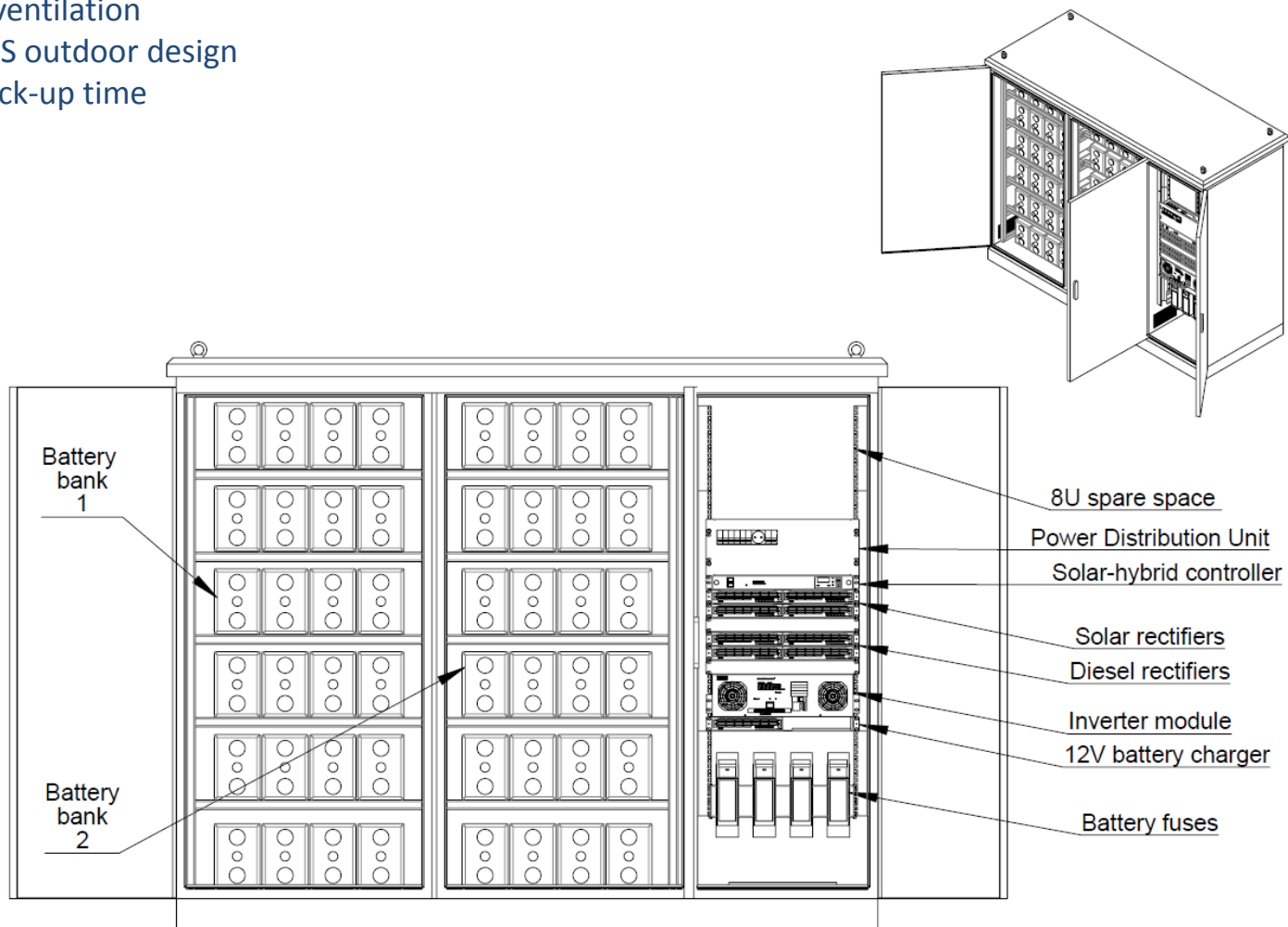
COOLRACK – IPS complete outdoor power system

- 2 x A/C redundant IPS design
- Double IPS outdoor design
- Long back-up time



COOLRACK – IPS complete outdoor power system

- Forced ventilation
- Triple IPS outdoor design
- Long back-up time



IPS key client's references

TELECOMMUNICATIONS



Telecom Austria Group



Deutsche Telekom



Telenor



China Telecom



Bulgarian Telecommunication Company



Telecom Serbia



Max Telecom



Neterra Telecommunications



Emirates Integrated Telecommunications Company



Airspan Networks



Bynet Data Communications



Indra Systems



NATO



EADS



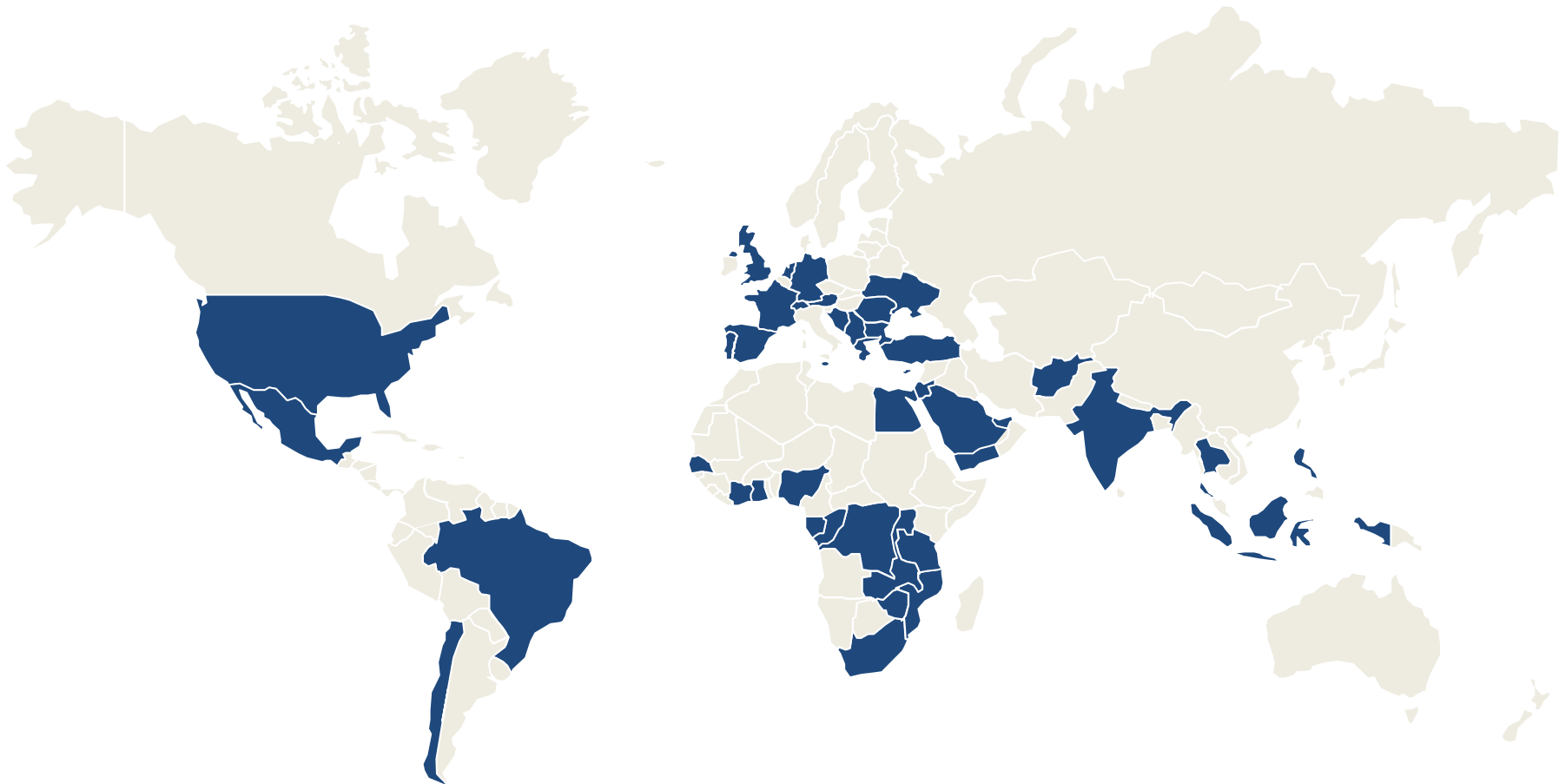
Ericsson



Nokia Siemens Networks

IPS international presence

- IPS is currently presented in 50 countries



■ Countries where IPS is present

Antarctica